

# APPENDIX A-1



Acheson Colloids Company  
1600 Washington Avenue  
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Tel: (810) 984-5581  
Fax: (810) 984-1446  
www.achesonindustries.com

## SS 24600

### Fast Drying, Conductive Graphite Coating

#### DESCRIPTION

SS 24600 is one of a series of Acheson coatings designed to provide controlled electrical properties.

SS 24600 is a dispersion of finely divided graphite in a thermoplastic resin that rapidly air dries to form a flexible conductive coating. It is designed to be applied by typical spray, flexographic or gravure print techniques.

SS 24600 is fully miscible with Electrodag® PD-034 (conductive silver coating) to product a range of resistance between 0.1 ohm/square to 40 ohms/square.

#### TYPICAL APPLICATIONS

- Electronic circuitry
- Flexible conductive coating for plastic substrates
- EMI shielding
- Flexographic and rotogravure printed circuits
- Medical sensors

#### ADVANTAGES

- Excellent conductivity achievable at 20 ohms/sq/mil (25µm)
- High speed flexographic or rotogravure printable

#### TYPICAL PROPERTIES (of wet product)

Pigment	: graphite
Binder	: PVC resin
Diluent	: n-propyl acetate
Color	: black
Consistency	: liquid
Density	: 9.0 lbs/gal (1.08 kg/l)
Solids content by weight	: 38%
Flash point	: 58°F (14°C) (Tag closed cup)
Viscosity	: 3,500 mPa-s (Brookfield RVT #4 spindle @ 20 rpm @ 77°F/25°C)
Theoretical coverage	: 370 sq ft/gal @ 1 mil (8.40 m²/kg @ 25 µm) (9.1 m²/l @ 25 µm)
VOC	: 5.67 lb/gal (681 g/l)

#### TYPICAL PROPERTIES (as cured)

Color	: black
Maximum service temp.	: 220°F (104°C)
Sheet resistance	: < 40 ohm/sq @ 1 mil (25 µm) film thickness
Pencil hardness	: HB

Coating resistance may be varied by controlling the film thickness.

# APPENDIX A-2



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## Electrodag® PD-034

### Fast Drying Conductive Silver Coating

DESCRIPTION	Electrodag PD-034 is one of a series of Acheson coatings designed to provide controlled electrical properties.																					
	Electrodag PD-034 is a suspension of silver pigment in a thermoplastic resin that rapidly dries to form a flexible conductive coating. It is designed to be applied by typical flexographic or gravure print techniques.																					
	Electrodag PD-034 is fully miscible with SS 24600 (conductive graphite coating) to produce a range of resistances.																					
TYPICAL APPLICATIONS	<ul style="list-style-type: none"><li>• Electronic circuitry</li><li>• Flexible conductive coating for plastic substrates</li><li>• Flexographic and rotogravure printed circuits</li></ul>	<ul style="list-style-type: none"><li>• EMI shielding</li><li>• Medical sensors</li><li>• Smart labels</li></ul>																				
ADVANTAGES	<ul style="list-style-type: none"><li>• Excellent conductivity achievable at 0.010 ohms/sq/mil (25µm)</li><li>• High speed flexographic or gravure printable</li></ul>																					
TYPICAL PROPERTIES (of wet product)	<table><tr><td>Pigment</td><td>: silver</td></tr><tr><td>Binder</td><td>: vinyl resin</td></tr><tr><td>Diluent</td><td>: PM acetate</td></tr><tr><td>Consistency</td><td>: liquid</td></tr><tr><td>Density</td><td>: 16 lbs/gal (1.92 kg/l)</td></tr><tr><td>Solids content by weight</td><td>: 60% by weight</td></tr><tr><td>Flash point</td><td>: 117°F (47°C)</td></tr><tr><td>Viscosity</td><td>: 2,000 mPa-s (RVT #4 spindle, 20 rpm @ 77°/25°C)</td></tr><tr><td>Theoretical coverage</td><td>: 306 sq ft/gal @ 1 mil (3.92 m²/kg @ 25µm) (7.51 m²/l @ 25 µm)</td></tr><tr><td>VOC</td><td>: 6.49 lb/gal (778 g/l)</td></tr></table>		Pigment	: silver	Binder	: vinyl resin	Diluent	: PM acetate	Consistency	: liquid	Density	: 16 lbs/gal (1.92 kg/l)	Solids content by weight	: 60% by weight	Flash point	: 117°F (47°C)	Viscosity	: 2,000 mPa-s (RVT #4 spindle, 20 rpm @ 77°/25°C)	Theoretical coverage	: 306 sq ft/gal @ 1 mil (3.92 m²/kg @ 25µm) (7.51 m²/l @ 25 µm)	VOC	: 6.49 lb/gal (778 g/l)
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# APPENDIX

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a National Starch & Chemical Company

## Electrodag® Photogravure and Flexographic Coatings Product Selection Guide

PRODUCT	PIGMENT			CARRIER	SUBSTRATE		BINDER	TYPICAL RESISTIVITY	COMMENTS
	Ag	Ag/AgCl	C	Water	Solvent	Polyester	Paper		
Electrodag PD-034	5				♦	▲		<0.015 Ohms/sq/mil	Can be blended with SS24600 for custom resistivity.
Electrodag PM-011	5				♦		▲	<0.020	Excellent printability and resistivity on paper substrates.
PE-001	5			♦		▲	▲	<0.050	Low VOC material.
SS24639		9			♦	▲		<0.150	Excellent for use in medical electrodes.
SS24936		9		♦		▲		<0.120	Low VOC material. Excellent for medical electrodes.
PE-007		9			♦	▲		<0.100	Superb resistivity for high speed printing.
SS24600			9		♦	▲	▲	<40	Can be blended with PD-034 for custom resistivity.
Electrodag PM-003A			5		♦		▲	15	Excellent high speed printability.
PE-003			9	♦		▲	▲	<35	Low VOC Carbon.

Electrodag is a registered trademark of Acheson Industries, Inc.  
For specific information please refer to the individual product data sheets.